

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 030487PC/CA	FOR FURTHER ACTION		See item 4 below
International application No. PCT/AU2004/000578	International filing date (<i>day/month/year</i>) 04 May 2004 (04.05.2004)	Priority date (<i>day/month/year</i>) 02 May 2003 (02.05.2003)	
International Patent Classification (IPC) or national classification and IPC 7 A61B 5/0476			
Applicant THE UNIVERSITY OF QUEENSLAND			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

Date of issuance of this report
04 November 2005 (04.11.2005)

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PATENT COOPERATION TREATY

From the:
INTERNATIONAL SEARCHING AUTHORITY

To:

Cullen & Co
GPO Box 1074
BRISBANE QLD 4001

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PCT 13 JUL 2004

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

8 JUL 2004

FOR FURTHER ACTION

See paragraph 2 below

Applicant's or agent's file reference
030487PC/CA

International application No.
PCT/AU2004/000578

International filing date (day/month/year)
4 May 2004

Priority date (day/month/year)
2 May 2003

International Patent Classification (IPC) or both national classification and IPC

Int. Cl. ⁷ A61B 5/0476

Applicant

THE UNIVERSITY OF QUEENSLAND et al

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2004/000578

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2004/000578

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	YES
	Claims 1 to 15	NO
Inventive step (IS)	Claims	YES
	Claims 1 to 15	NO
Industrial applicability (IA)	Claims 1 to 15	YES
	Claims	NO

2. Citations and explanations:

The following documents identified in the International Search Report have been considered for the purposes of this report:

- D1 Rockstroh et al (2001)
- D2 RU 2192779 (HERSTVA PEDIARRII)
- D3 Betterton et al (2003)
- D4 Kaji et al (2003)
- D5 US 5267570 (PRESTON)
- D6 RU 2039524 (DMITRIEVA)
- D7 Narayana Dutt et al (1997)
- D8 WO 2001058351 (CNS RESPONSE, INC.)
- D9 JP 2003-052656 (FUJI XERXOX CO LTD)
- D10 Finnigan et al (2004)

The present application defines a method of predicting neurological developments from a cerebral disorder (claim 1), a method of predicting the functional outcome of a stroke (claim 10) and a method of predicting neurological developments resulting from a stroke or like cerebral ischaemia (claim 12). Each of these methods processes EEG data to obtain a measure of the delta power band at two time points and predicts the status of the patient from a change in the power band between these two points.

Document D1 analyses EEG data to explore the concept of assessing dysfunctional brain regions from the distribution of focal slow waves in the delta wave band. It was noted in D1 that the dipole density analysis suggested a difference in the distribution of focal slow waves between various cerebral disorders (in this case depressives and schizophrenics). Obtaining readings at two time points and comparing these readings to predict the condition of a patient is a basic scientific concept and within the ability of the person skilled in the art. The number of electrodes used to obtain the EEG data and using Fast Fourier Transforms are well known in the art. Claims 1 to 15 lack an inventive step in view of this document.

Document D2 uses a quantitative delta-rhythm power spectrum from EEG data at two or more time points to predict potential neurological disorders in infants experiencing ischaemic disorders. It is considered that claims 1 to 15 lack novelty and an inventive step in view of this document.

Documents D3 and D4 are published after the priority date of the present application but are considered to disclose methods of predicting neurological developments using the delta power band of EEG data. Claims 1 to 15 lack novelty and also an inventive step in view of these documents.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International Application No.

PCT/AU2004/000578

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Document D5 uses slow wave activity in the brain to diagnose and treat chronic fatigue syndrome.

D6 provides a method of evaluating the functional state of a person's central nervous system from EEG data.

D7 compares the delta power band of the left and right hemispheres of the brain during a seizure.

D8 recites a method of treating and classifying physiological brain imbalances from analysis of various data sources, including EEG.

In document D9 EEG data is analysed to judge the presence or absence of a psychoneurotic disease.

None of documents D5 to D9 disclose a method of predicting neurological developments from the delta power band of EEG data.

Document D10 is an article by the inventors of the present application and relates the substantially same subject matter as the present application. This document is cited as a "T" category citation to better understand the theory of the invention.

Articles 33(2) and 33(3) of the PCT are not satisfied in respect of claims 1 to 15 when compared to the disclosure of any one of documents D2 to D4. Article 33(3) is not satisfied in respect of claims 1 to 15 when compared to the disclosure of document D1. Article 33(4) is satisfied, the claimed methods are considered to have an industrial application.